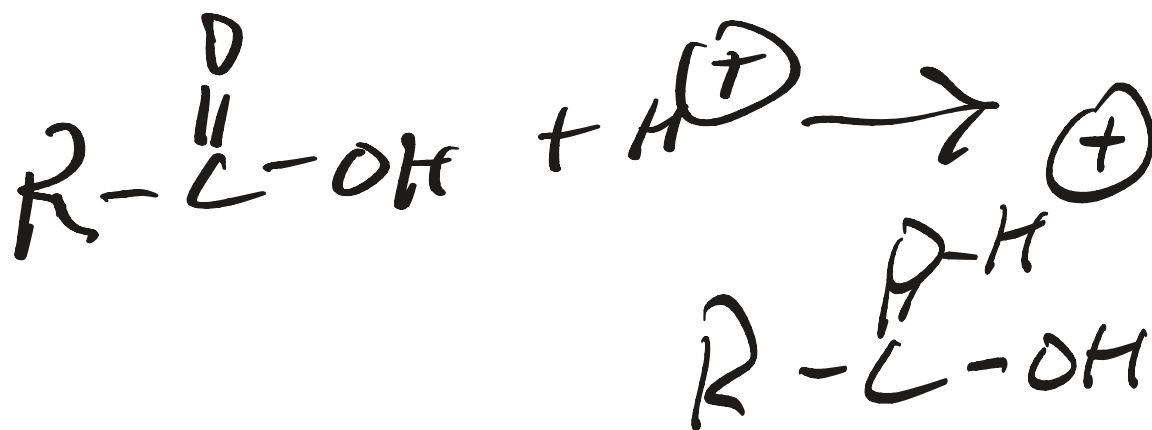
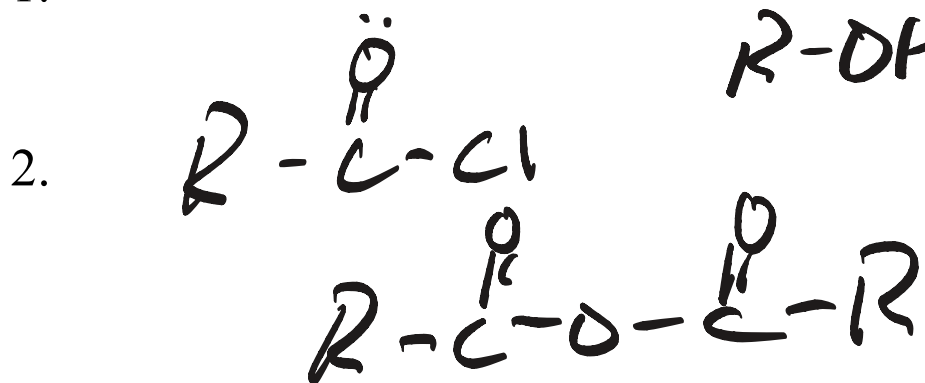
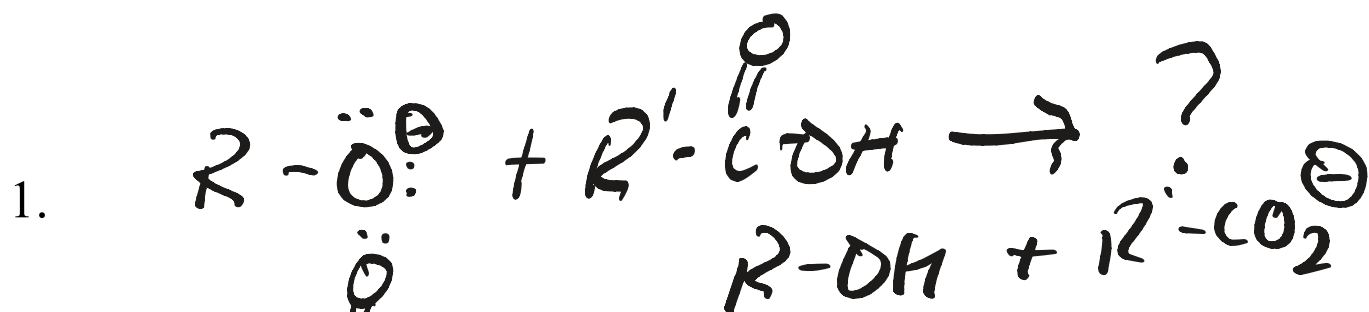
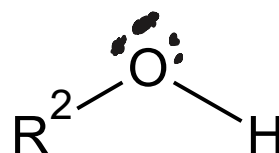
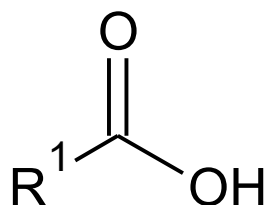
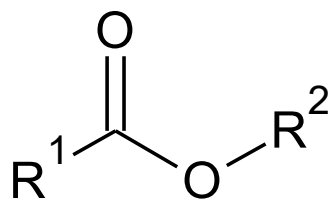
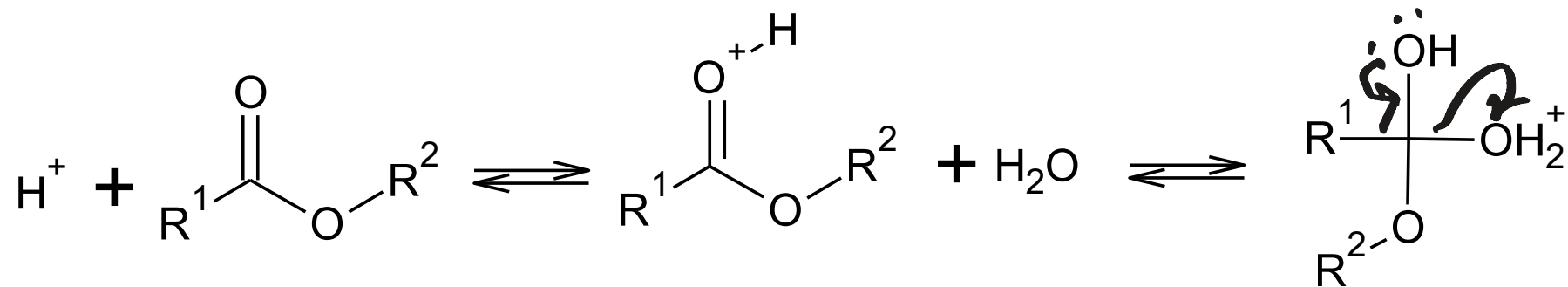
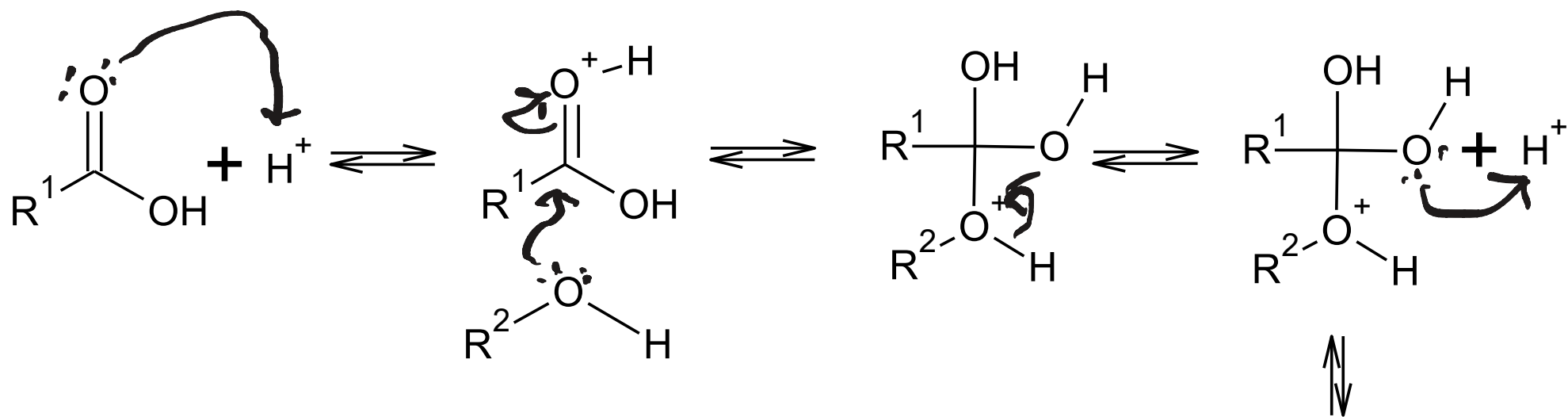


Fischer Esterification

1284

10/8/26





1. H^+ H_2SO_4
2. equilibrium problem

$$K_{eq} = \frac{[H_2O][Ester]}{[Acid][alcohol]} \approx 4$$

$$= \frac{x \cdot x}{(1-x)(1-x)} = 4$$

$$= \frac{x^2}{(1-x)^2} = 4$$

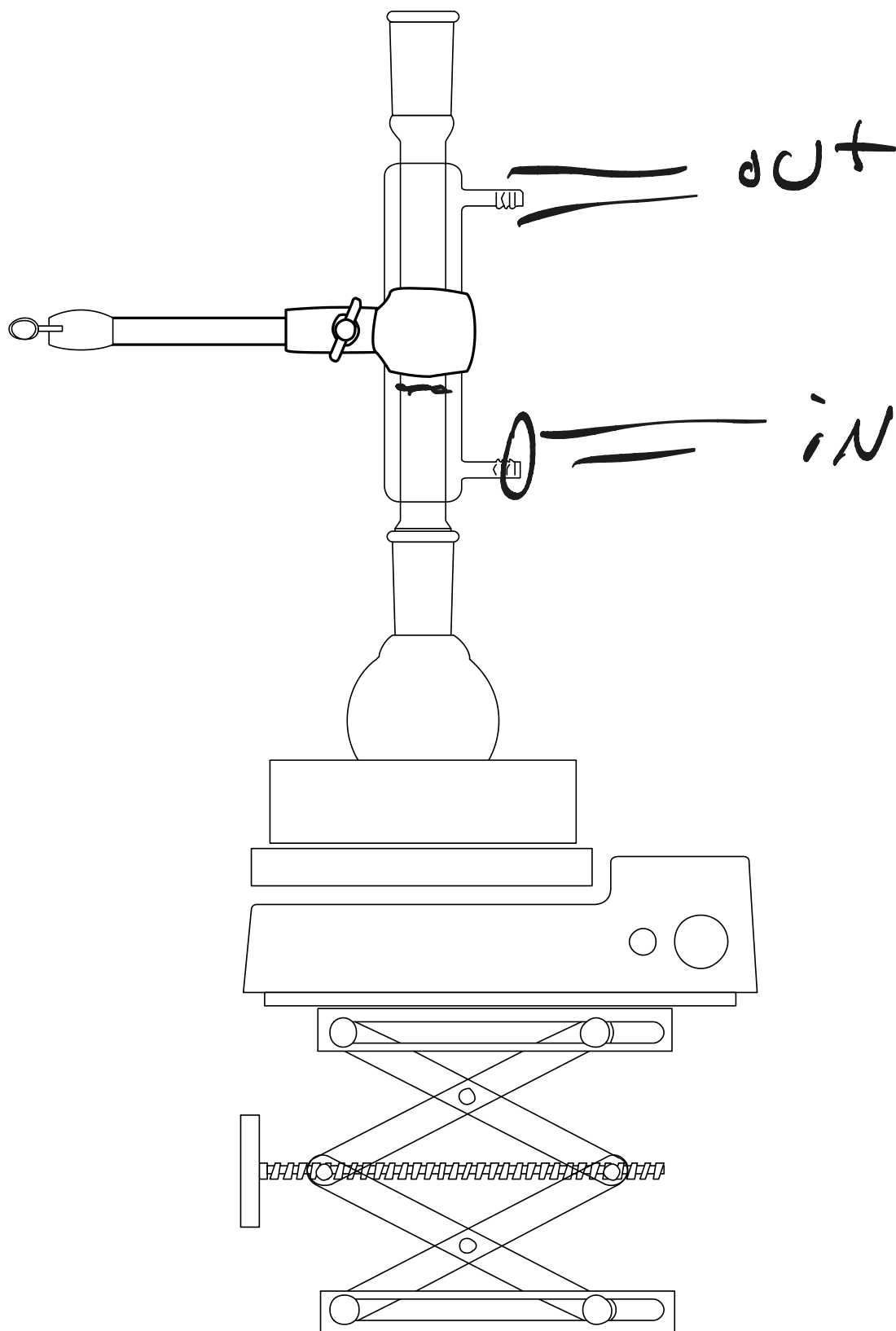
$$= \frac{x}{1-x} = 2 \quad 67\%$$

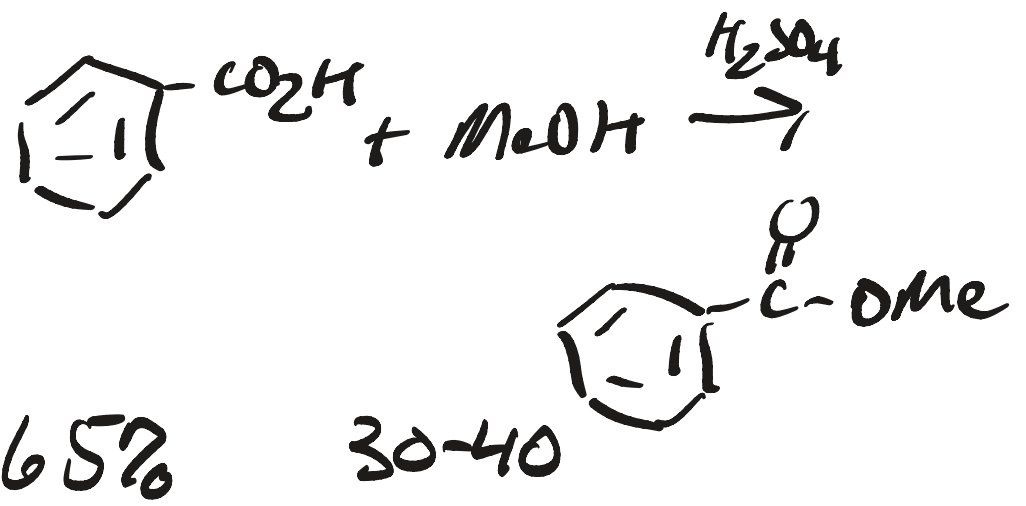
$$\frac{x^2}{(1-x)(2-x)} = 4 \quad x = 2/3$$

85%

$$(1-x)(3-x) \approx 91\%$$

3. No Product





70% yield, GC, IR, ~~1H~~ NMR

